



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/983,002	10/17/2001	Griffith D. Neal	8864-24	7769

7590 01/21/2004

Brinks Hofer Gilson & Lione
Suite 3600
455 N. Cityfront Plaza Dr.
Chicago, IL 60611

EXAMINER

HEITBRINK, JILL LYNNE

ART UNIT	PAPER NUMBER
----------	--------------

1732

DATE MAILED: 01/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

05

Office Action Summary	Application No. 09/983,002	Applicant(s) NEAL, GRIFFITH D.	
	Examiner Jill L. Heitbrink	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-75 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-75 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 18-20, 40-42, 53-55 and 67-69 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for comparing the first order frequency of at least one hundred hard disc drive components with a phase change material, does not reasonably provide enablement for comparison with components without a phase change material, i.e. lines 2 and 3 of claim 18 does not refer to the disc drive components being encapsulated or overmolded. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. The specification is not enabled for comparison with components which are not overmolded included in the at least one hundred hard disc drive components.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 45 recites the limitation "said monolithic body" in line 2. There is insufficient antecedent basis for this limitation in the claim.

6. Claim 60, line 1 is unclear as to how a component or resonance can be "sympathetic".

7. Claims 58, 59 and 73 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 28 and 29. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 32 and 33 are rejected under the judicially created doctrine of double patenting over claims 1-41 of U. S. Patent No. 6,437,464 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: a high speed spindle motor such as hard disc drive which is an electronic device including injection molded phase change material substantially encapsulating components of the motor or drive.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

10. Claims 32 and 33 are rejected under the judicially created doctrine of double patenting over claims 1-61 of U. S. Patent No. 6,617,721 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: a high speed spindle motor such as hard disc drive which is an electronic device including injection molded phase change material substantially encapsulating components of the motor or drive.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

11. Claims 32 and 33 are rejected under the judicially created doctrine of double patenting over claims 1-31 of U. S. Patent No. 6,501,616 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: a high speed spindle motor such as hard disc drive which is an electronic device including injection molded phase change material substantially encapsulating components of the motor or drive.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-26 and 28-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Viskochil, Pat. No. 5,650,896 taken together with Rosato et al. (INJECTION MOLDING HANDBOOK, 3rd edition).

14. Viskochil discloses a process of conventional injection molding (col. 6, lines 16 and 17) to form encapsulated hard disc drive components. Rosato teaches the conventional injection molding process controls for obtaining repetitive product specifications (see page 626, first column and 706-708). These controls including monitoring the pressure in the mold cavity at the beginning-of-fill point and an end-of fill point and in the runner to the mold cavity (such as page 669, second column through page 670), controlling the fill rate of the molten phase change material (page 662, second column), controlling the injection pressure (pages 649 and 650), injection being carried out until predetermined beginning-of-fill and end-of-fill pressures are reached or the setpoint values are reached for changing to the packing pressure control and a stroke sensor for measuring the fill rate (see page 713). It would have been obvious to a person of ordinary skill in the art to use the process control taught by Rosato for the conventional injection molding in Viskochil so as to produce hard disc drive components economically and within specifications. As for the maximum flow rate being above 25 cm³/s, Rosato (pages 114-118) teach and give examples of conventional screw travel wherein the injection flow rate is 289 cm³/s (page 116, top right column). As for the hard disc drive components produced using the conventional injection molding having a first order frequency within thirty Hertz of the median first order frequency, the examiner is not capable of determining the results from such test. However, the conventional injection molding process controls teach the claimed process steps and thus the results of the process would have obviously been within the claimed limits. Additionally, page 27, lines 1-8 of the applicant's specification describe a first order frequency within three

Art Unit: 1732

hundred Hertz of the median first order frequency being produced by conventional processes. Viskochil, col. 6, lines 13-16, discloses the injected material being a polyphenylene sulfide thermoplastic resin such as RYTON which inherently has a coefficient of linear thermal expansion of less than 2×10^{-5} in/in/°F throughout the range of 0°F to 250°F in the axial direction and the coefficient of linear thermal expansion in the Y and Z directions being no more than four times the coefficient of linear thermal expansion in the X direction (see RYTON Data Sheet or Applicant's specification page 15).

15. Claims 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Viskochil, Pat. No. 5,650,896 taken together with Rosato et al. (INJECTION MOLDING HANDBOOK, 3rd edition) as applied to claims 1-26 above, and further in view of Understiller et al. Pat. No. 5,966,799.

16. Understiller et al. teaches that RYTON was available with either or both ceramic or glass particles. It would have been obvious to a person of ordinary skill in the art to use a phase change material including ceramic particles in Viskochil since RYTON was commercially available at the time of invention with ceramic or glass particles.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill L. Heitbrink whose telephone number is 571-272-1199. The examiner can normally be reached on Monday - Friday 9:30-2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Colaianni can be reached on 571-272-1196. The fax phone

Art Unit: 1732

number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 713-308-0661.


Jill L. Heitbrink
Primary Examiner
Art Unit 1732

jlh